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The Competence of Non-Current Aphasic Patients on Language Modality Mastering (Repeat, Reading, and Writing) in Word Formation

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ABSTRACT

This paper aims to reveal how the development of the level of competence of aphasia sufferers is not smooth to three of the six modalities of language, namely repeating, reading, and writing. Descriptive analytical survey methods became the main choice in this study and were supported by cohort methods. The research was conducted at three major hospitals in Makassar City (Wahidin Sudirohusodo Hospital), Dadi Hospital, and Labuang Baji Hospital). A study sample of 25 people with aphasia qualified inclusively. The data is analyzed in a simple quantitative through the use of the SPSS V24.0 Program coupled with qualitative descriptive analysis. The results showed that the development of their level of competence towards the three modalities studied differed, both between the aphasia itself and between its capital. Repeat modalities are much better than the other two modalities (reading and writing). From stage to stage, they show an increase in the competence of repeat modalities. It is different from the development of reading and writing competence. Reading competence has begun to appear in the second stage for some sufferers and continues to grow at a later stage. While writing competence is different from its competence because in the third stage then some sufferers can show the development of their competence. Compared to other modalities, writing competence is the most difficult modality to achieve development by people with aphasia is not smooth.

Keywords: *Aphasia is not smooth, competence, development, and language modalities*

1. INTRODUCTION

The attention of neurologists to people with aphasia today began to increase because they no longer only focused on the recovery of consciousness, motor strength, and early mobilization of patients, but they have also begun to pay attention to the management of disorders of sublime function, especially those related to aphasia. The sublime function is closely related to the language of aphasia sufferers. The sublime function of language plays an important role for humans, including for people with aphasia because it can also serve as a memory, perception, cognition, and even emotions. Therefore, a person suffering from aphasia will experience language disorders (both oral and written) caused by disorders or damage in certain parts of the brain. Brain damage itself can be caused by a wide variety of diseases, but most often by circulatory disorders in the brain and brain injury (stroke and trauma). Nadeau, Rothi, & Crosson (2000) mentions that aphasia can occur following stroke and traumatic brain injury, can also be associated with diseases that affect elements and brain function (Dachrud, 2010: 34). Stroke cases in Indonesia in general and in South Sulawesi, in particular, are still quite high. Those who had an average stroke had aphasia. Remember. Aphasia is a language disease associated with the language nerve brain. In general, people with aphasia have difficulty finding words. Language abnormalities in aphasia are almost always caused by damage to the left hemisphere of the brain. However, the presence of right hemisphere disorders can also cause aphasia. This was revealed thanks to the attention of various experts. As evidence is the classification of aphasia over motor aphasia (left brain) and sensory aphasia (right brain). Of the few cases that have existed, it appears that people with aphasia are

unable to process language auditorially, but are still able to listen to sounds normally in most spoken words. Likewise, they can see, but cannot read. They can chew, swallow, and hum, but cannot speak. (Lyons, 1992:267-268).

Various clinical experiences show that some people who suffer from aphasia are characterized by a discrepancy between the lexical and grammatical forms, some have difficulty with nouns, verbs, adjectives and others, others encounter difficulties in the pronunciation of task words. Other difficulties encountered in some of them can occur in the form of an inability to group lexical forms into their semantic values. For example, they know the meaning of the word reading but cannot classify this word as a noun, verb, adjective, or adverb. Looking at the various clinical experiences above is closely related to the classification of aphasia. The use of the 36 puck test and the Boston test have been able to determine different types of aphasia. Each test consists of two parts, namely verbal tests and nonverbal tests to evaluate language modalities such as spontaneous speech, naming objects (comprehension), repetition, reading and writing.

Aphasia that occurs due to circulatory disorders (nonhemoragic) becomes its attraction to be studied and studied. The lack of research results related to aphasia is one of the reasons attention focuses on reviewing it (especially in Indonesia). Another reason is that physiologically their speaking style looks different from normal people. Often people think they have a psychiatric disorder, even though they suffer from aphasia. One more reason is that the incidence of aphasia in acute phase ischemic stroke is 23.5% (Bachtiar et al, 2018:235). This is following data in other studies that show the incidence of aphasia in stroke is 13-40%. In addition, the number of stroke sufferers who are the main cause of people suffering from aphasia in Indonesia from year to year continues to increase. For this study, the authors only focused on people with aphasia caused by stroke, especially ischemic stroke (nonhemorrhagic stroke = NHS). This happens to them more caused by a blockage in the blood vessels so that the distribution of blood to the brain is impaired. In other words, their language activities will be disrupted. Among some research results of authors related to aphasia, some things have not been presented, namely the ability of aphasia sufferers related to three mastery of language modalities (repeating, reading, and writing). Therefore, on this occasion, the title of this assessment was formulated into the Competence of Aphasia Sufferers Not Fluent In Mastery of Language Modalities (Repeating, Reading, and Writing) in Word Formation.

2. METHODOLOGY

Research is conducted in an analytic descriptive survey through cohort methods, namely epidemological research methods used to study the dynamics of correlation between risk factors and effects, with models of longitudinal approaches to forward, prospective approaches (Pratiknya, 2003: 184) This approach serves to know the level of development of informant competence in the mastery of three modalities repeating, reading, and writing. This study was conducted in several Makassar hospitals for six months. Research informants as many as twenty-five people who meet the criteria inclusion (positive ischemic stroke and suffer from aphasia is not smooth) Hazing is done with purposive or emergent techniques 'sticking out' with a fairly proportional ratio. Three stages are done. Stage 1, acute period (14 days from the stroke). Stage 2, 1 week postpartum. Stage 3 is performed 1 month after Stage 2. Data is collected through unstructured interviews using instruments in addition to fishing techniques. In addition, recording techniques are often used simultaneously with the purpose when the data processing can still be heard again. The data obtained is diskored through two forms; (1) rough score, namely the number of points obtained by the patient (0 - 10) and (2) the norm score, which is a score that gives a measure of competency development assessment by referring to the TADIR Test, namely by using 5 numbers as follows:

Category 1 = absolutely no speaking ability = uncompetitive) (0 points)
Category 2 = very disturbed (1 - 3 points)
Category 3 = disturbed (4 - 6 points)
Category 4 = slightly / somewhat disturbed (7 - 9 points)
Category 5 = normal (10 points)

3. FINDING AND DISCUSSIONS

The competence of aphasia sufferers about the three modalities of language (repeating, reading, and writing) in word-formation can refer to Tables 1 – 3. Each table shows its frequency distribution.

Table 1 DF Repeating (MG)

COMPETENCE OF WORD FORMATION	STAGE 1	STAGE 2	STAGE 3			
	N	%	N	%	N	%
1	8	32	3	12	1	4
2	18	72	15	60	5	20
3	4	16	12	48	12	48
4	0	0	0	0	11	44
5	0	0	0	0	1	4

Table 2 DF Reading Gains (MB)

COMPETENCE OF WORD FORMATION	STAGE 1		STAGE 2		STAGE 3	
	N	%	N	%	N	%
1	16	64	12	48	4	16
2	12	48	15	60	7	28
3	2	8	3	12	13	52
4	0	0	0	0	5	20
5	0	0	0	0	1	4

Table 3 DF Acquisition Write (MT)

COMPETENCE OF WORD FORMATION	STAGE 1		STAGE 2		STAGE 3	
	N	%	N	%	N	%
1	17	68	13	52	5	20
2	10	40	14	56	10	40
3	3	12	3	12	10	40
4	0	0	0	0	5	20
5	0	0	0	0	0	0

1 = no competence
2 = very disturbed;
3 = disturbed,
4 = somewhat distracted,
5 = normal

3.1 Modalities of Repeats word

Table 1 (competence to repeat words) shows a distribution that is somewhat different from other competencies. The details, for category 1 consist of 8 people (32%) in Stage 1, reduced to 3 people (12%) in Stage 2 and reduced again to stay 1 person (3.3%) in Stage 3. For category 2, the same thing happened, namely Stage 1 18 people (72%), Stage 2 reduced to 15 people (60%), and the remaining 5 people (20%) in Stage 3. Category 3 is filled by 4 people (16%) Stage 1, then increases to 12 people (48%) Stage 2, and 12 people also (48%) in Stage 3. For category 4 and category 5 are both still empty (0%) Stages 1 and 2, then Stage 3 is 11 people (44%) and 1 person (4%). It seems that informants are more in control of repeating campaigns at the word level. The indicator is clear, namely the number of aphasia sufferers who are in category 3 plus 11 people (44%) for category 4 and 1 person (4%) for category 5. For more practical understanding, we also need to know about the graph of the development of competence repeating it through table 4 below.

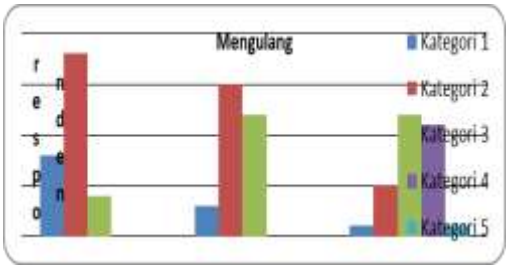


Table 4 Graph of Repeat Competence (MG) at Word Level

Table 4 shows that category 1 is relatively low (decreasing at a later stage). That is, the competence to repeat their words can be said to be better than the other two competencies (reading and writing). Those who fall into this category have not been able to imitate a speech in Stage 1. The results of observations and data show they are correctly suffering from aphasia because entering Stage 2 can already repeat some common nouns such as animal names, household tools, or natural objects. They can also repeat simple verbs and easy adjectives such as colour names. See the following example.

StM : [sapi], [ku…ku…da…kuku…da], [kakanto] → /sapi/, /kuda/, /kantor/
SM : [səndoq], [mi:::nuŋ], [ba:iya] → /sendok/, /minum/, /buaya/
MH : [masaq], [ĵahit], [ayaŋ] → /masak/, /menjahit/, /ayam/

For category 2 in Stage 1 was classified as high (18 people, 72%). Almost half of them (8 people, 32%) entering Stage 2 increase the competence of repeating because it rises to category 3 (on average can already repeat 5 - 6 words). Look at some of the following examples.

MH : [kantor], [mobil], [masuk], [meruh eh…marah] → /kantor/, /mobil/, /masuk/, /merah/
SF : [pohon], [kəpala, kəpala, ɛh…kəlapa, kəpala], [ĵulut], [pərgi], [ambulans], [pasir] → /pohon/, /kelapa/, /jeruk/, /pergi/, /ambulans'/, /pasir/
MW [mañĵahit], [čuči], [biča…bəča…eh…susah…ha], [obat], [doqtər] → /menjahit/, /mencuci/, /bicara/, /obat/, /dokter/

In Stage 1 for category 3 only 4 people (16%). That is, repeating competence includes competencies that are more easily obtained by aphasia sufferers. This finding is in line with those presented by Lesser, Ruth and Lesley Milroy (1996) that people with aphasia generally have difficulty in terms of verbal expression (especially for those who have nervous system disorders related to articulation devices), but they are easier to imitate or repeat a speech. (Poerwadi [1]). Indeed, the increase in the competence of repeating informants is not only shown by the numbers in the table as above, but another thing that is also an indicator of an increase in their competence is a change that they no longer repeat the syllables as in the early stages. Just pay attention to the words of StM who still repeat the syllables in Stage 2, but in Stage 3 in question has not shown the repetition of such syllables. In addition, StM and several other informants also experienced the addition of the ability to repeat well some new vocabulary.

3.2 Modalities of Reading Words

Mastery of modalities reading words for aphasia sufferers is summarized in Table 2. Table 2 shows that 16 people (64%) are in Stage 1, then decrease to 12 people (48%) in stage 2, and only 4 people left (16%) in stage 3 for category 1. While for category 2 there were 12 people (48%) at stage 1, as many as 15 people (60%) in stage 2, and 7 people (28%) at Stage 3. Furthermore, category 3 becomes greatly reduced in Stage 1 only 2 people (8%) and in stage 2 only and 3 people (12%), while in stage 3 can reach 13 people (52%). Like other competencies, category 4 and category 5 have not been acquired in Stage 1 and Stage 2, while Stage 3 has been obtained 5 people (20%) category 4 and 1 person (4%) category 5. The summary contains the understanding that the competence to read words for aphasia sufferers shows progress over time. For details, consider table 5 below.

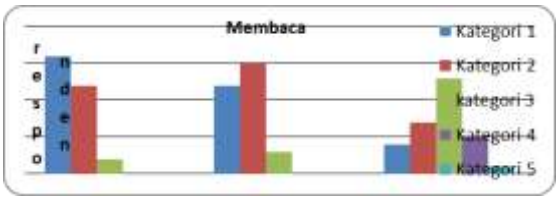


Table 5 Reading Competence Graph

Table 5 above shows the development of reading competence of aphasia sufferers from stage to stage. For example, category 1 in Stage 1 amounted to 16 people and decreased to 12 people in Stage 2, then decreased drastically in Stage 3 so that only 4 people remained. That is, they experience an increase in the competence to read words as shown by SF, StR, AS, and AR, which is both classified as category 1 Stage 1 can read correctly 2 - 3 words in Stage 2. Consider the example of the competence to read the four people whose graph shows the following prominent developments.

Stage 2:

SF : [saya], [bebeq], [pohoŋ] → /I /, /duck/, /tree/

StR : [masak], [sayur], [mərah] →/cook/, /vegetable/, /red/

AS : [məlati], [gagak], [buaya], [səndok], [garpu], *[bau] → /jasmine/, /riven/, /crocodile/, /spoon/, /fork/, / remembrance/

AR : [mobil], [ular], [bintaŋ] → /mobil/, /ular/, /bintang/

Some other informants are not presented here because of their ability to read only one or two words until Stage 2. It's still not perfect even though it's done over and over again. Also, pay attention to its progress in stage 3 below.

Stage 3:

SF : [bapak], [kupukupu], [gunuŋ], [biru], [mənčaŋkul] → /father/, / butterfly /, /mountain/, /blue /hoe/

StR : [kakak], [ĵauh], [baŋun], [mənĵait], [pəsawat],→ / older brother /, /far/, /wake up/, / sew /, /plane

AS : [pəsawat], [kɛrbauw], [suŋai], [pulpən], [mɛsjid], [ləmari] → /plane/, / buffalo /, /river/, /pen/, /mousque/, /cupboard/

AR : [kuda], [liŋgis], [baĵu], [pənsil], [rambut], [səmbuh], [pulaŋ], [kuniŋ] → /horse/, / crowbar /, /shirt/, /pencil/, /hair/, / healed /, /go home/, /yellow/.

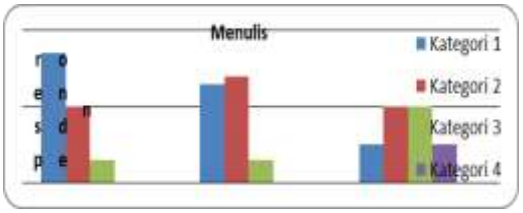


Table 6 Writing Competence Graph

Furthermore, only 2 people (8%) were able to fill category 3 at Stage 1 and increase to 3 people (12%) in Stage 2 and increase somewhat significantly to 13 people (52%) in Stage 3. The achievement of the number of 13 people in Stage 3 does not come from the same category, but the average comes from those who are in category 2 at Stage 2. It is also a marker of increased reading competence for aphasia sufferers. Then, for category 4, 5 people are in Stage 3, They are from category 2 and category 3 at Stage 2, such as the UK, UM, US, MWs, and HAS, as shown in the following example.

UK : [mərakit] → / sew /

UM : [papa] → /father/, [massit] → /mosque/

AS : [biaya] → /crocodile/

MWs : [rəmari] → /cupboard/, [saĵur] → /vegetable/

HAS : [kelapa] → /kepala/, [ribit] → /lips/

There is one thing that attracts attention from the data above, namely the US speech [cost] (cost) for the word /crocodile/ (crocodile). Compared to other vocabularies that on average have phonetic similarities but have no difference in meaning, the word cost and crocodile are two words that do not have phonetic similarities but occur in exchange for adjacent sounds/phonemes, namely /i / and / u /. The meaning of the two words is also very different. This case deserves further investigation, especially from the phonetic and phonemic aspects. It should be argued that their misreading occurs in the order of 7 to 10 of the ten words proffered. It is suspected that the likely cause is that they are tired and bored because it has been more than an hour they are observed and invited to communicate.

3.3 Modalities of Writing Words

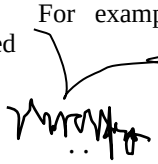
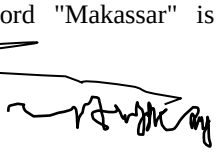
Table 3 shows category 1 Stage 1 there are 17 people (56.7%) down to 13 people (43.3%) Stage 2 and finally 5 people (16.7%) Stage 3. Furthermore, for category 3 there were 10 people (33.3%) Stage 1, 14 people (46.7%) Stage 3, and again decreased to 10 people (33.3%) Stage 3. Stage 1 for category 3 (only 3 people, 10%) and no change in number in Stage 2, but to 10 people (33.3%) Stage 3. In category 4 there are already 5 people (16.7%) obtained by Stage 3, while Stage 1 and Stage 2 have also not reached category 4 and category 5. Look at table 6 below.

Table 9 Graph of Writing Competence (MT) at Word Level

Word writing competence also has a high-frequency distribution in Stage 1 and Stage 2, both for category 1 and category 2. The decrease in frequency from Stage 1 to Stage 2 and up to Stage 3 specifically for category 1 indicates the development of their competence to read words. Such a decrease in frequency means that aphasia sufferers change their category, from category 1 (lowest) to higher category (category 2) as experienced by SF, AR, US, and the UK.

The four people in Stage 1 have not been able to write words like the other thirteen people who are both in category 1. Entering Stage 2, the four of them could already write 2 - 3 words such as their names and residences or other words. Their writing is quite clear and legible even if some run tilted up or down. However, some people among the 13 aphasia sufferers who are still in category 1 status at Stage 2 can hold stationery correctly and try to write. The result does not form a word but in the form of a pile of lines or a wavy line that gets to the right the smoother the wave.

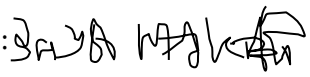
For example, the word "Makassar" is shaped

or  or 

In Stage 3, some of them can already write 1 - 3 words with varying views (some use beam/capital letters all, some use lowercase letters all, and some are mixed). For category 2 which originally amounted to 10 people (33.3%), Stage 1 changed to 14 people (46.7%) Stage 2 because 4 people changed from category 1 to category 2. Entering Stage 3 then they can show their writing competence. There are 6 out of 10 people who change to category 3 plus another 3 people are from category 1. There is one person (ED) when in Stage 3 jumps to category 4. The ability to write ED is very prominent compared to others because, in addition to being able to write quickly and correctly, the results also look beautiful and neat and orderly. The rest, their level of writing competence remains category 2.

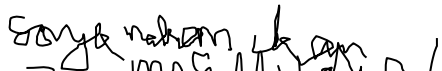
Category 2:

BG : 

JF : 

AF : 

Category 3:

MW : 

MWs : 

The examples shown above are some interesting choices to comment on because some of them are a bit blurry and a bit difficult to read and inconsistent. meaning, apart from being irregular, it also does not follow instructions, for example about the order of words to be written. For example, there are two informants when they get to the 5th-word order, instead, they write back to the 2nd order word that they have skipped. Furthermore, when asked to write a word that is in the 6th order, it returns to the first word. This becomes further thought, why do they think so? On the other hand, there is also one informant as previously mentioned (ED) that his writing competence is near perfect because everything is assessed correctly and sequentially. While what appears above, there are also things that are different between them, such as in category 2, it can be seen that BG is only able to write continuously without being able to read it, while from JF and AF the results of his writing can be read even though the two are different. It can be seen from JF's writing that the inverted letter /s/ resembles the number three in the first word /I/ and resembles the number five in the second word /Makassar/. In addition, he also seemed to be long-pressing his writing instrument for the letter /a/ so that it seemed that there was a thickening. Another difference is that JF wrote intermittently between letters, while AF was able to write continuously the letters, but the results were not as perfect as in the second unfinished word for Makassar. The higher progress is MW because all the results are continuous and consistent and complete in letters. After all, it is already in category 3 together with MWs. It's just that MWs have incomplete word writing results as in the second word, namely period (cooking).

4. CONCLUSION

In general, it was concluded that the mastery competence of the three modalities (repeating, reading, and writing) for non-fluent aphasia sufferers increased from time to time. In approximately eight weeks, the increase from Stage 2 to Stage 3 was greater than Stage 1 to Stage 2. Up to Stage 3, most of their development reached category 3 (Disturbed) although there was a small number who reached category 4 (slightly disturbed) and category 5 (normal). In particular, the repetition modality tends to have a higher level of competency development or improve faster than the other two modalities (reading and writing). The repeating modality is much better developed. While the writing modality is the most difficult to achieve for people with non-fluent aphasia. Other results show that the development of the level of competence between people with aphasia in the three modalities is different. compared to the other two modalities (reading and writing). From stage to stage, they showed an increase in the competence of the repetition modality. It is different with the development of reading and writing competence. Reading competence has begun to appear in the second stage for some patients and continues to increase in the next stage. As for writing competence later in the third stage, then some patients can show the development of their competence.

AUTHORS' CONTRIBUTIONS

The authors' contribution explains the mastery competence of the three modalities (repeating, reading, and writing) for non-fluent aphasia sufferers increased from time to time

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